

REMARKS

Claims 1-46 and 48-100 are pending as a result of the amendment and entry of new claims. Claim 47 has been canceled, claim 94 has been amended and new claim 100 has been added.

In the Office Action mailed December 4, 2003, claims 1-99 were rejected. The claims have been amended as noted above. This amendment and new claims are fully supported by the specification and do not incorporate new matter.

In the Office Action, the rejection was made final. As noted above, in a conversation with the Examiner, agreement was reached that the finality should be withdrawn because of the citation of Tsukamoto that was not necessitated by the amendments. However, should the finality not be withdrawn, on page 2 of this paper applicant has requested a continued examination of this application along with authorization to debit any fees due from the noted deposit account.

CLAIM REJECTIONS

I. Rejection of Claims 1-21, 48-87 and 94-99 under 35 U.S.C. § 103(a) over Idlas, Lustig and Peiffer

In the Office Action mailed December 4, 2002, the Examiner rejected claims 1-21, 48-87 and 94-99 under 35 USC § 103(a) as being obvious over **Idlas** (U.S. Patent No. 5,769,648) ("Idlas") in view of **Lustig et al.** (U.S. Patent No. 4,863,769) ("Lustig") and in further view of **Peiffer et al.** (U.S. Patent No. 6,063,482) ("Peiffer"). Applicant respectfully submits that the claims are patentable over these references for at least the following reasons, and requests removal of these rejections.

A. The rejection is improper because **Idlas teaches away from the present invention by teaching against the use of PVDC and teaching the preferred use of random copolymers of propylene.**

First, the Examiner asserts that claims 1-21, 48-87 and 94-99 are unpatentable over the combination of **Idlas**, **Lustig** and **Peiffer**. Specifically, with regard to **Idlas**, the Examiner states:

Though **Idlas** teaches the use of EVOH as the gas barrier layer, it is well known in the art that EVOH, nylon and PVDC, including vinylidene chloride-vinyl chloride and vinylidene chloride-methyl acrylate copolymers, are functionally equivalent barrier materials utilized in the art wherein **Idlas** specifically teaches that known packaging films typically contain EVOH, nylon, and/or PVDC barrier layers and that EVOH is an alternative barrier layer for PVDC in terms of recycling (Col. 2, line 43-Col. 3, line 37) and hence one having ordinary skill in the art would have been motivated to utilize any of these known and conventional barrier materials, including any conventional PVDC barrier material, based on the desired barrier and film properties for a particular end use, particularly if recycling is not a desired property, given the reasonable expectation of success in order to achieve similar gas barrier properties.

(Office Action at 3.)

In essence, it appears that the Examiner's position is that PVDC is a drop-in substitute for EVOH in any film structure, and that because both PVDC and EVOH are used as gas barrier layers, that one of ordinary skill in the art would be motivated to use either material depending on the desired barrier and film properties regardless of the other materials and layers in the film structure.

In contrast to the Examiner's position, Applicant respectfully submits that the Examiner is ignoring the teaching of the references as a whole with this oversimplification. **Idlas** does not render these claims unpatentable because **Idlas** teaches away from the combination of a vinylidene chloride containing gas barrier layer in the packaging films of the present invention, by suggesting that vinylidene chloride-containing polymers (hereinafter generally referred to as "PVDC") is not a desirable material for an oxygen barrier layer in the films taught by **Idlas**, and that PVDC is not readily interchangeable with the EVOH oxygen barrier films taught by **Idlas**. Thus, in the context of the films taught by

Idlas, contrary to the Examiner's assertion, PVDC is not a functional equivalent to EVOH. The fact that this patent was issued to **Idlas** evidences, among other things, that EVOH was not known to be functionally equivalent to PVDC in the film structures of **Idlas**.

Idlas teaches away from the instant invention. It is improper to combine references where references teach away from their combination. Manual of Patent Examining Procedure § 2145 (8th ed. 2001) ("M.P.E.P.") citing, *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983) (The claimed catalyst which contained both iron and an alkali metal was not suggested by the combination of a reference which taught the interchangeability of antimony and alkali metal with the same beneficial result, combined with a reference expressly excluding antimony from, and adding iron to, a catalyst). Not only does **Idlas** teach away from using PVDC, it also teaches away from modifying other film layers to achieve the instant invention.

First, **Idlas** teaches that because of difficulties in recycling and processing PVDC polymers, EVOH is preferably employed as an alternative to a PVDC oxygen barrier layer. **Idlas** at col. 3, lines 25-30 ("Also, recycling of PVDC polymers is difficult.... Attempts to remelt film containing PVDC frequently results in degradation of the PVDC component. For this reason EVOH has been employed as an alternative barrier layer.").

Second, even considering that one of ordinary skill in the art may not have an interest in recycling the films, there is no motivation to use PVDC instead of EVOH in the film structures disclosed by **Idlas**. **Idlas** teaches that "[t]he invention in *all* its embodiments comprises... an EVOH gas barrier layer." (col. 7, lines 25-30-emphasis added). None of the examples of the invention in **Idlas** use PVDC as a barrier layer. Even though PVDC exists in the art as a possible gas barrier material, the Examiner has not identified any specific identified benefit to be gained from its use that would motivate one of ordinary skill in the art to use it instead of EVOH in the films of **Idlas**.

Third, **Idlas** teaches the preferred use of random copolymers of propylene, with a melting temperature preferably more than 129°C. (col. 10, lines 32-33). These are not metallocene catalyzed propylene copolymers as used in the present invention. While **Idlas** claims the use of a metallocene catalyzed C₃-C₂ copolymer (claim 9), the specification

expressly teaches that random copolymers, and not metallocene catalyzed copolymers, are preferred materials, thus leading one of ordinary skill away from selecting metallocene catalyzed copolymers for combinations with other materials.

Fourth, there is no specific motivation to further modify **Idlas** by eliminating the “at least 10 wt. % of an anhydride-modified third copolymer of ethylene” in the second and fourth layers required by **Idlas** on either side of the EVOH layer. The anhydride-modified poly ethylene is not required in the second and fourth layers by the present claims, and further distinguishes the claimed invention from the cited references.

Accordingly, the Examiner has not shown that one of ordinary skill in the art following **Idlas** would be motivated to select a film combination that included both a PVDC barrier layer and a metallocene catalyzed propylene copolymer layer and did not include anhydride-modified polyethylene in a layer adjacent the core barrier layer. Rather, one of ordinary skill in the art would be proceeding contrary to the preferred teachings of **Idlas** in coming to the present invention. As discussed below, the teachings of **Lustig** and **Peiffer** do not provide any motivation to overcome the preferred teachings of **Idlas** away from the present invention.

B. The rejection is improper because there is no suggestion or motivation to combine the stated references to substitute only PVDC from Lustig for EVOH in Idlas.

Second, the Examiner asserts that with regard to **Lustig**:

Lustig et al teaches that a biaxially oriented, heat shrinkable film comprising a gas barrier core layer that may be either ethylene vinyl alcohol or polyvinylidene chloride with a vinylidene chloride content of 70-95% copolymerized with vinyl chloride acrylate esters provides a film suitable for packaging food articles such as meat products . . . as similarly used by **Idlas**, and hence one having ordinary skill in the art at the time of the invention would have been motivated to utilize the functionally equivalent polyvinylidene chloride taught by **Lustig** having a vinylidene chloride content of 70-95wt% in place of the EVOH gas barrier layer in the invention taught by **Idlas**.

(Office Action at 3-4.)

Again, it appears that it is the Examiner's position that one of ordinary skill in the art would be motivated to make a drop-in replacement of only the PVDC taught by **Lustig** into the film of **Idlas**. The Examiner is assuming in the abstract the functional equivalence of EVOH and PVDC for any film structure..

Applicant respectfully submits that the combination of **Idlas**, **Lustig** and **Peiffer** does not render claims 1-21 and 48-80 unpatentable, because in **Lustig** there is no teaching, suggestion or motivation overcoming **Idlas**' express teachings against substituting the PVDC oxygen barrier layer for the EVOH core (oxygen barrier) layer of **Idlas**. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so. M.P.E.P. § 2143.01. A prior art reference must be considered in its entirety, including disclosures that teach away from claims. M.P.E.P. § 2141.02, at 2100-120.

First, **Lustig** does not teach that a PVDC oxygen barrier layer can be substituted for an EVOH oxygen barrier layer in a multilayer film. **Lustig** teaches advantageously high shrinkage values at elevated temperatures of very low density polyethylene (VLDPE). See, e.g., **Lustig** at col. 10, lines 11-17. **Lustig** presents Example II showing that VLDPE monolayer films have "highly desirable" high shrinkage values and Example III showing foodstuff bags made from monolayer VLDPE have "substantially improved shrinkage properties." However, **Lustig** does not disclose the combination of VLDPE layers with an oxygen barrier layer other than PVDC. Therefore, **Lustig** provides no demonstrations and no express teaching to substitute PVDC for EVOH.

Second, **Lustig** teaches that a PVDC copolymer oxygen barrier layer can be included in a multilayer film structure that includes an EVA inner layer. Specifically, in Example IV, **Lustig** teaches multilayer films comprising a PVDC core layer with outer layers of either EVA or EVA-VLDPE blends, *and inner layers of only EVA*. (col. 13, line 60 – col. 14, line 8). By teaching the desirable shrinkage properties of VLDPE films on the one hand, but conspicuously omitting any example or teaching of multilayer films comprising PVDC oxygen barrier layers in combination with a film structure *absent* an EVA layer, the

teachings of **Lustig** suggest to one of ordinary skill in the art that the PVDC oxygen barrier layer is compatible with multilayer structures juxtaposed to an EVA layer.

Accordingly, **Lustig** teaches away from any motivation to combine the PVDC oxygen barrier layers with film structures in **Idlas** that do not include EVA layers.

Third, to the extent that the references include a suggestion to substitute PVDC with EVOH that overcome **Idlas**' express teachings to the contrary, Applicants submit that one of ordinary skill in the art following **Lustig**'s teachings would substitute an inner layer of EVA next to a core layer of PVDC for the EVOH core layer in the films of **Idlas**. However, Applicant asserts that there is no such teaching in **Lustig** sufficient to overcome **Idlas**' express teachings to the contrary. The Examiner must consider the degree to which one reference might accurately discredit another. MPEP §2143.01 at 2100-124. Since the multi-layer film taught by **Lustig** (EVA/PVDC/EVA:PE) is disclosed in the background section of **Idlas** (col. 2, line 46), Applicant submits that **Idlas** accurately discredits any suggestive power that **Lustig** may hold to substitute PVDC for EVOH in **Idlas**.

C. The rejection is improper because hindsight reasoning is required to optimize the polymerization conditions of **Idlas in light of **Peiffer** to arrive at the instant invention.**

Third, with regard to the teachings of **Peiffer**, the Examiner asserts that:

Though **Idlas** teaches that the packaging film has low extractable levels and contains a first layer preferably comprising a propylene-ethylene copolymer formed in the presence of metallocene catalysts, wherein it is well known in the art that metallocene catalysts have narrow molecular weight distribution Mw/Mn, **Idlas** does not teach the n-hexane extractable content and the Mw/Mn of the propene copolymer as instantly claimed.

8. However, it is well known that Mw/Mn and n-hexane extractable content are the results of the polymerization process and are result-effective variables affecting the properties of the copolymers formed, particularly the melt processability and heat seal properties of the polymer as evidenced by **Peiffer et al.** **Peiffer et al** specifically teach a packaging film comprising a propylene polymer containing at least 90%wt propylene units and not more than 10wt% ethylene units wherein the propylene polymer is polymerized in

the presence of metallocene catalysts producing a polymer structure having an n-heptane extractable content of less than 1.0wt% and a low molecular weight distribution of less than 4, particularly 1.5 to 2.7, wherein the structure of the propylene polymer provides a packaging film having improved film properties including elasticity and high gloss (Col. 3, line 38 – Col. 4, lines 67 [sic.]). Hence, given the reasonable expectation of success, one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum polymerization conditions to produce the metallocene-catalyzed propene copolymer taught by **Idlas** having the desired Mw/Mn and n-hexane extractable content for a particular end use, wherein **Peiffer et al.** [sic.] teach the production of metallocene-catalyzed propylene copolymers having n-hexane extractable content and Mw/Mn values as instantly claimed provide improved film properties. (Office Action at 4-5).

Applicant respectfully submits that the asserted combination of **Peiffer** and **Idlas** with **Lustig** does not render claims 1-21, 48-87 and 94-99 unpatentable because improper hindsight reasoning is required to optimize the polymerization conditions of **Idlas** in light of **Peiffer** to arrive at the instant invention. See M.P.E.P. § 2145, at 2100-152. In considering prior art under 35 U.S.C. § 103, “a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” M.P.E.P. § 2141.02.

Without the knowledge disclosed in the present application, Applicant respectfully submits that one skilled in the art would not “optimize” the synthesis of the propene copolymer first layer of **Idlas** according to the *complete* teachings of **Peiffer** to obtain the metallocene-catalyzed propylene copolymers having the melting temperature range and other physical properties as instantly claimed. First, the first layer of **Idlas** is not described as being preferably a metallocene catalyzed resin, contrary to the Examiner’s assertion, but rather preferably a random copolymer resin as formed by Ziegler-Natta catalyst processes. (See **Idlas**, col. 10, lns. 32-40). Therefore, one of ordinary skill in the art would have to go against **Idlas’** preferred teachings to seek out **Peiffer**. Second, **Peiffer** teaches a melting point range limitation regarding the metallocene-catalyzed polypropylene of its “base ply” layer that suggests that the metallocene based polymer synthesis methods disclosed in

Peiffer are not directly or universally applicable to the propene copolymers in the first layer of **Idlas**.

Moreover, contrary to the Examiner's assertion, Applicant submits that one of ordinary skill in the art would not read **Peiffer** as teaching the "optimization" of the metallocene-catalyzed synthesis of the propene copolymer first layer of **Idlas** for several reasons. First, **Idlas** and **Peiffer** teach propene copolymers with different melting point ranges. Second, **Idlas** teaches that the melting point of copolymers within the multilayer films of the invention is a primary parameter used to (i) select processing conditions for the manufacture of the multilayer film by extrusion (col. 14, lines 40-49), (ii) achieve desired heat shrinking properties of the multilayer film (col. 14, line 67 – col. 15, line 5), (iii) select a draw point and orientation temperature for orienting of films (col. 19, lines 63-64), and (iv) evaluate the ease of film recycling (col. 3, lines 25-27). Accordingly, one of ordinary skill in the art could not apply the teaching of **Peiffer** to "optimize" the synthesis of the propene copolymer portion of a multilayer film of **Idlas** with any assurance that the resulting polymer would retain the desirable physical properties of heat shrinkage, low molecular weight distribution and low n-hexane extractables if it was reformulated to be capable of being extruded and oriented at the different temperatures taught in **Idlas**. Instead, the desired physical properties, given the manufacturing conditions taught in the specification or known in the art, is provided by the instant application and not by **Peiffer**, **Idlas** or the level of ordinary skill in the art.

Applicant's position is supported by a direct comparison of **Peiffer** and **Idlas**. This comparison highlights that **Peiffer** teaches a copolymer that one of ordinary skill would recognize may *not* work with the film of **Idlas** based at least on the different melting temperature ranges. **Peiffer** teaches a metallocene-catalyzed "base ply" polymerized in the presence of metallocene catalysts producing a polymer structure with a melting point between 140°C-175°C, preferably from 150°C – 165°C, and most preferably between 155°C - 162°C (col. 3, lines 48-57). Indeed, **Peiffer** shows examples of only propene homopolymers that have melting temperatures of between 147°C and 161°C. Moreover, **Peiffer** notes that the film according to the invention is "distinguished by improved tear propagation

resistances in the longitudinal and transverse directions of the film, the other properties of the film, in particular the mechanical properties and *the shrink resistance*, not being disadvantageously impaired.” (col. 8, lines 8-12).

In contrast to **Peiffer**, **Idlas** teaches preferred propene copolymers of propene and certain α -olefins, wherein copolymers have a melting point of less than 140°C or between about 126°C - 145°C, preferably between about 129°C - 136°C. (Abstract; col. 10, lines 30-33). Also, **Idlas** teaches that an object of the invention is to make a film having high heat shrinkage properties. (col. 5, lines 23-25).

The temperature range of the propene copolymer is integral to teachings of **Idlas**. **Idlas** teaches that the melting point of the propene copolymer is a critical parameter in: (1) the manufacturing of the multilayer film by extrusion (col. 14, lines 40-49, teaching orientation at “temperatures below the melting points for the predominant resin comprising each layer...”), (2) heat shrinking temperatures (col. 14, line 67 – col. 15, line 5, teaching heat shrinking of multilayer films below the melting temperature of major components of the films), (3) selecting a draw point or orientation temperature for biaxially stretching and orienting the multilayer film (col. 19, lines 63-64, teaching “The draw point or orientation temperature was below the predominant melting point for each layer...”) and (4) the recycling of polymers comprising PVDC comprising other polymers with different melting points (col. 3, lines 25-27, teaching “....recycling of PVDC polymers is difficult, particularly where the waste polymer is mixed with other polymers having different melting points.”).

The present application teaches, *inter alia*, a first layer of a multilayer film comprising a propene copolymer with certain α -olefins with a melting temperature of between about 100°C and 145°C (as recited in independent claims 1 and 48), and preferably between 110°C and 130°C (as recited in dependent claims 7, 16, 17, 18, 51, 60-62, 66, and 75-77), and more preferably between 120°C and 130°C (as recited in dependent claims 8, 52, and 67). Clearly, the propene polymers shown by example in **Peiffer** have a melting point temperature range higher than the polymers in **Idlas**, which are indicative of a different structure with greater heat shrink resistance. Therefore, the propene copolymers of **Peiffer**

are not simply a drop-in for the propene copolymer of **Idlas** in heat shrinkable films to obtain the film as presently claimed in claims 1 and 48.

Absent the teachings of the present application, one of ordinary skill in the art seeking to synthesize a first layer of a multilayer film comprising a propene copolymer with a melting temperature of between about 100°C and 145°C, and more specifically between 110°C and 130°C or between 120°C and 130°C, in accordance with the instant application, could not reasonably be sure that the teachings of **Peiffer**, directed to a polymer having a higher melting point range of between 140°C-175°C (most preferably between 155°C - 162°C), could be applied to effectively optimize the **Idlas** propene copolymer, which has a melting point of between 126°C - 145°C, without disrupting the effectiveness of the manufacturing conditions and resulting film properties recited for the **Idlas** films.

One such property for the film expressly recited by at least some of the present claims, is that the film be heat shrinkable. The films taught by **Peiffer** are not heat shrinkable, as evidence by the data in the Table at columns 15 and 16, wherein the films of Ex. 5 and 6 have shrinkage of 3.0% or less in both directions. In contrast, the present application, at page 11, lines 25-28, teaches that the film has a shrinkage of 20% or higher at 90°C, and at page 36, lines 18-26, teaches that the shrinkage may be more than the comparative example films A-E. **Peiffer** provides no teachings how to modify its propylene copolymers to obtain high shrinkage, low melting point temperature and retain the low extractables required by the present claims.

Moreover, **Peiffer** teaches using the metallocene catalyzed propene copolymer in the base ply of a film, preferably with top plies on either side of the base ply. The present claims require the propene copolymer to be at least in the first layer, which is the heat sealing layer. As taught by the present application, a low melting temperature is important for this first layer to improve the sealing abilities of the film across a broader temperature range. Therefore, one of ordinary skill in the art would not be motivated to consider **Peiffer**, because it teaches propene copolymers with a higher melting temperature in a base ply, that likely may not be as suitable for a sealing layer. Indeed, one of ordinary skill in the art

would merely substitute the polymer of **Peiffer** into the film of **Idlas** and likely obtain a film without the claimed physical properties.

Accordingly, Applicant requests removal of this rejection because the Examiner employs improper hindsight reasoning in this rejection by combining knowledge gleaned only from the applicant's disclosure, e.g., that polypropylene copolymers with lower melting points and comprising co-monomers of certain α -olefins *and* having desirably low n-hexane extractable content and Mw/Mn values can be synthesized and made into heat shrinkable films. Clearly, there is no teaching based on **Peiffer** to synthesize such a propylene copolymer with all the properties required by **Idlas**. M.P.E.P. § 2145 (citing *In re McLaughlin*, 443 F.2d 1392, 1395, 170 U.S.P.Q. 209, 212 (CCPA 1971)).

D. The rejection is improper because **Idlas teaches at least five layers, whereas Claims 48-80 and 95-99 "consist essentially of" the recited three layers.**

Moreover with regard to Claims 48-80 and 95-99, the claims are directed to film that "consists essentially of" the recited layers. Only three layers are recited, the third being optional. A core barrier layer is absent from the recited layers. **Idlas** states that "the inventive article is preferably a heat shrinkable multilayer film which must have at least five layers. These five *essential* layers are . . ." (col. 8, lines 1-5, emphasis added). These essential layers of **Idlas** include an EVOH core barrier layer. **Idlas** provides no motivation to eliminate this "essential" core layer. The other references, **Lustig** and **Peiffer** also provide no such motivation. Therefore, claims 48-87 are patentable over the combination of cited references for at least this additional reason.

The Examiner asserts that "consisting essentially of" may be construed as equivalent to "comprising." However, this ignores the plain language of the claims and the specification. The novel characteristics of independent claim 48 include the combination of the claimed layers without the core gas barrier layer. As noted at page 12 of the specification, the films and bags may be useful for food and non-food particles. Therefore,

the use of a simple film structure having the shrinkability, for example as claimed in claims 94-99, and taking advantage of only the claimed layers without a gas barrier layer may provide a low cost alternative for packaging non-food articles where diffusion of oxygen into the bag is not a concern. Examples 3 and 4 in the application are directed to this embodiment of the invention.

Although independent claim 48 uses the language “consisting essentially of” and excludes a core barrier layer, applicants submit new claim 100, which specifically recites that a core barrier layer is excluded from the film structure.

E. Claims 84, 85, 98 and 99 require high shrinkage and are thus separately patentable

Claims 84, 85, 98 and 99 were rejected by the Examiner because the Examiner asserted that **Idlas** teaches shrinkage “may be greater than 20% in either or both directions at 90C and beneficially may be greater than 30%. (Office Action at page 3.) Applicant asserts that **Idlas** does not disclose examples of shrinkage rates as high as claimed in these particular claims. **Idlas** does not expressly state that higher shrinkage rates are obtainable with the use of the metallocene catalyzed propene copolymer, as compared to conventional propene copolymers, in the first layer. Thus, **Idlas** fails to suggest the selection of this material in the first layer for the purpose of obtaining the high shrinkage rates as claimed in claims 84, 85, 98 and 99. Moreover, **Peiffer** teaches that the metallocene catalyzed propene copolymer has good shrink resistance properties. Therefore, for the additional reason that the combination of the selection of metallocene catalyzed propene copolymer with the higher shrinkage rates are not suggested by **Idlas** and are rejected by **Peiffer**, these particular claims are patentable over the combination of **Idlas**, **Lustig** and **Peiffer**.

II. Rejection of Claims 22-47 and 88-92 under 35 U.S.C. § 103(a) over Idlas, Lustig and Peiffer

In the Office Action, the Examiner rejected claims 22-47 and 88-92 under 35 USC § 103(a) as being obvious over **Idlas** in view of **Lustig** and **Peiffer**. Specifically, the Office Action states:

Though **Idlas** teaches the packaging films may further comprise additional intermediate layers, **Idlas** does not specifically teach the incorporation of an intermediate or transition layer between the first propene copolymer layer and the second ethylene blend layer, however, it is well known in the art that tie or intermediate layers can be provided between two adjacent layers wherein the tie or transition layer is a blend of the polymer materials utilized in the two adjacent layers thereby providing improved adhesion between the two layers. Hence, one having ordinary skill in the art would have been motivated to provide an intermediate layer as taught by **Idlas** between the first propene layer and the second ethylene blend layer wherein it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize routine experimentation to determine the optimum blend composition and thickness of the intermediate layer based on the composition of the first and second layers of the film taught by **Idlas** to provide the desired adhesion between the two layers.

(Office Action at pp. 5-6).

A. The rejection should be withdrawn because the prior art does not teach or suggest the claimed composition of the transition layer of the present invention.

Applicant respectfully submits that **Idlas** in view of **Lustig** and **Peiffer** do not render claims 21-47 and 88-92 unpatentable, because **Idlas** gives no indication of which parameters are critical among the many possible combinations for the transition layer compositions of the instant invention. An obviousness rejection under 35 U.S.C. § 103 is improper when “what would have been ‘obvious to try’ would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no indication as to which of many possible choices is likely to be successful... or where the prior art gave only general

guidance as to the particular form of the claimed invention or how to achieve it.” M.P.E.P. § 2145 (quoting *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988)).

Idlas discloses a multilayer film with at least five layers, but allows for: (1): “additional” or “intermediate” layers disposed between the core layer and the first and fifth layers, or as an outside surface layer (col. 8, lines 15-25), (2) addition of “various resins... as additional layers” (col. 16, lines 11-13), and (3) “additional layers or polymers to add or modify various properties of the desired film...” (col. 19, lines 17-21). Even if these recitations could be construed as teaching or suggesting a transition layer, there is no teaching or suggestion in **Idlas** itself, or implied by **Idlas**, as to what elements of the various layers disclosed could be combined to create an effective transition layer.

Applicant can find no teaching or suggestion in **Idlas** of the specific combination and proportions of propene:α-olefin copolymer and ethylene:α-olefin copolymers as recited in claim 22. One of ordinary skill in the art would be left without any direction to pick and choose amongst a myriad of choices to arrive by sheer happenstance at the specific elements and proportions in the transition layer claimed. Accordingly, the Examiner is only asserting that the prior art only gives “general guidance as to the particular form of the claimed invention or how to achieve it,” which does not support a *prima facie* case according to MPEP 2145 that the specific claimed composition for the transition layer is obvious.

Moreover, to maintain the high shrinkage rates as claimed in claims 88-92, applicants submit that the cited art provides no motivation as to what choice and composition range of materials would be useful in the transition layer where one would obtain the high shrinkage rates without using undue experimentation. Without the teachings of the present invention, one of ordinary skill in the art would be required to undertake undue experimentation. For this additional reason, claims 88-92 are separately patentable.

B. The rejection is improper because hindsight reasoning is required to optimize the polymerization conditions of Idlas in light of Peiffer to arrive at the instant invention.

The comments concerning **Idlas**, **Lustig** and **Peiffer** made above with regard to claims 1-21, 48-87 and 94-99 apply to claims 22-47 and 88-92. In particular, applicant points out that Claim 22 recites in the preamble a heat shrinkable packaging film. **Peiffer** is specifically directed to a film having shrink resistance. (col. 8, lines 8-12). That shrink resistance plus the higher melting point temperatures of the propene polymers disclosed by **Peiffer**, would lead one of ordinary skill in the art away from the teachings of **Peiffer** based on the specific properties of the metallocene-catalyzed polymer disclosed. Accordingly, Applicants assert that claims 22-47 are patentable over the cited references. In addition, present claims 30, 31, 39-41 are directed to the preferred lower melting point temperature ranges outside the broad ranges disclosed in **Peiffer**.

In the Office Action, the Examiner has merely asserted that resort to hindsight reasoning is proper "so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time of the claimed invention." (Office Action at page 14). However, the Examiner has not provided any citation to support that it was known at the time of the invention how to take the metallocene-catalyzed polymers disclosed in **Peiffer** for shrink resistant films and modify them to be acceptable for high shrinkage films. Accordingly, for this reason the Examiner has not made out a *prima facie* case of obviousness with regard to these three references and claims 22-47 and 88-93.

III. Rejection of Claims 1-92 and 94-99 under 35 U.S.C. § 103(a) over Idlas and Tsukamoto

In the Office Action, the Examiner rejected claims 1-92 and 94-99 under 35 USC § 103(a) as being obvious over **Idlas** in view of **Tsukamoto et al.** (US Patent No. 6,063,462) ("**Tsukamoto**"). Specifically, in the Office Action it is asserted that "one skilled in the art

would have been motivated to utilize PVDC as taught by **Tsuakamoto et al** as a functionally equivalent gas barrier material to EVOH in the invention taught by **Idlas**."

First, applicants submit all the comments made above with regard to **Idlas** apply here. **Idlas** does not teach that PVDC is functionally equivalent to EVOH in the film structures taught by **Idlas**. **Idlas** provides no disclosure to motivate one of ordinary skill in the art to replace EVOH with PVDC in the film structures of **Idlas**.

Second, **Tsukamoto** does not teach that PVDC may be a drop-in substitute in the film structures such as disclosed by **Idlas**. In the examples, **Tsukamoto** uses PVDC only when next to layers consisting of EVA, M-EVA or EEA polymers. In contrast, **Idlas** uses a blend of VLDPE and EVA in the layer next to EVOH. Because **Tsukamoto** teaches using PVDC only with a different layer next to it than taught by **Idlas**, one of ordinary skill in the art would not necessarily merely drop in the PVDC without also taking other teachings from **Tsukamoto**, such as altering the materials in the layers next to the barrier layer. Therefore, taking the references as a whole, one is not necessarily motivated to obtain the invention as presently claimed.

Third, **Tsukamoto** generally refers to broad classes of metallocene-catalyzed poly-alpha-olefin polymers. But in examples, **Tsukamoto** discloses the use, not of propylene, but only of metallocene-catalyzed ethylene copolymers. Indeed, the examples are based only on metallocene-catalyzed ethylene copolymers, and provide no data or guidance as to the differences between propene and ethylene copolymers. Thus, **Tsukamoto** provides no guidance to modifying the propene copolymer of **Idlas** to obtain the required Mw/Mn or n-hexane extractables for a metallocene-catalyzed propene copolymer as presently claimed. Accordingly, undue experimentation would be required without the benefit of the teaching of the present application.

Fourth, independent claim 48 and the claims dependent there from are limited to films consisting essentially of the recited layers. As explained above, this excludes the use of a core barrier layer. Since both **Idlas** and **Tsukamoto** disclose the use of core barrier layers and do not provide any motivation to one of ordinary skill in the art to not use a core barrier layer, these claims are not obvious.

For these reasons, claims 1-92 and 94-99 are not obvious over **Idlas** in view of **Tsukamoto**.

IV. Rejection of Claims 1-99 under 35 U.S.C. § 103(a) over Idlas and Tsukamoto

In the Office Action, the Examiner rejected claims 1-99 under 35 USC § 103(a) as being obvious over **Tsukamoto** in view of **Idlas**. The Examiner asserts that **Tsukamoto** discloses all the features as claimed of a multilayer film with a metallocene-catalyzed poly-alpha-olefin seal layer having properties as claimed, except for the blend of polymers in the second layer adjacent the propylene seal layer. Applicant submits that the claims are patentable over this combination of references for the following reasons.

First, **Tsukamoto** generally refers to broad classes of metallocene-catalyzed poly-alpha-olefin polymers, and prefers the use of ethylene copolymers. In examples, **Tsukamoto** discloses the use, not of propene, but only of metallocene-catalyzed ethylene copolymers. Indeed, the examples are based only on metallocene-catalyzed ethylene copolymers, and provide no data or guidance as to the differences between propene and ethylene copolymers. **Idlas** provides no guidance to modifying the ethylene copolymers of **Tsukamoto** to obtain the required Mw/Mn or n-hexane extractables for a metallocene-catalyzed propene copolymer as presently claimed. Accordingly, undue experimentation would be required without the benefit of the teaching of the present application.

Second, the second layer taught by **Idlas** includes three polymers blended together, but the instant claims require only two polymers: (a) at least 10 wt. % of a first copolymer of ethylene and at least one C₄ - C₈ α-olefin, and (b) at least 10 wt. % of a second copolymer of ethylene with from 4 to 18 wt. % of a vinyl ester, alkyl acrylate, acrylic or methacrylic acid. In combining the second seal layer taught by **Idlas** with **Tsukamoto**, there is no teaching to exclude the modified-anhydride ethylene copolymer taught by **Idlas** as being included in the second layer. Indeed, **Tsukamoto** discloses in the examples that M-EVA is often used in the

layer next to the core barrier layer. Therefore, following the teachings of **Tsukamoto** combined with **Idlas**, one would include this third polymer taking the second seal layer composition from **Idlas**.

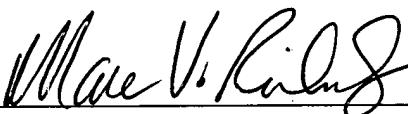
Third, independent claim 48 and the claims dependent therefrom are limited to films consisting essentially of the recited layers. As explained above, this excludes the use of a core barrier layer. Since both **Tsukamoto** and **Idlas** disclose the use of core barrier layers and do not provide any motivation to one of ordinary skill in the art to not use a core barrier layer, these claims are not obvious.

For these reasons, claims 1-99 are not obvious over **Tsukamoto** in view of **Idlas**.

V. Conclusion

Applicant respectfully asserts that the claimed invention is not obvious over the cited references. Accordingly, the rejection should be withdrawn and the pending claims are found allowable. Should the Examiner feel that an Interview may expedite the resolution of these matters or other formalities, she is kindly requested to contact the undersigned attorney.

Respectfully submitted,

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